

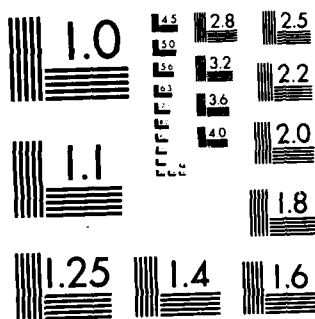
193118 MLRS MISSILE NUMBERS 456 495 430 ROUND NUMBERS
V-590/RV-10 V591/RV. (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NH ATH. D C KELLER MAY 84
ERADCON/ASL-DR-1344 F/G 4/2

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F/G 4/2

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

May 84

DR-1344

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METEOROLOGICAL DATA REPORT

19311B MLRS,
Missile Number 456, 495, 430
Round Number V-590/AV-10, V591/AV-11, V-592/AV-12
30 May 1984

by

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND



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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1344	2. GOVT ACCESSION NO. AD A143511	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19311B MLRS Missile Number 456, 495, 430 Round Number V-590/AV-10, V591/AV-11, V-592/AV-12		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) White Sands Meteorological Team		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS		8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research and Development Cmd Adelphi, MD 20783		12. REPORT DATE May 1984
		13. NUMBER OF PAGES
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		16a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) <div style="border: 1px solid black; padding: 5px; transform: rotate(-2deg); display: inline-block;">This document has been approved for public release and sale; its distribution is unlimited.</div>		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19311B MLRS, Missile Number 456, 495, 430, Round Number V-590/AV-10, V-591/AV-11, V-592/AV-12 are presented in tabular form.		

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INTRODUCTION

19311B MLRS, Missile Numbers 456, 495 and 430, Round Numbers V-590/AV-10, V-591/AV-11, and V-592/AV-12, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1430:01, 1430:06 and 1430:11 MDT, 30 May 84. The scheduled launch times were 1430, 1430:04.5 and 1430:09 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m³), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 Minutes.

(2) Anemometer data were provided from existing tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from Pilot-balloon observations at:

SITE AND ALTITUDE

LC-33 2 km

(2) Air structure data (rawinsonde) were collected at the following Met Sites.

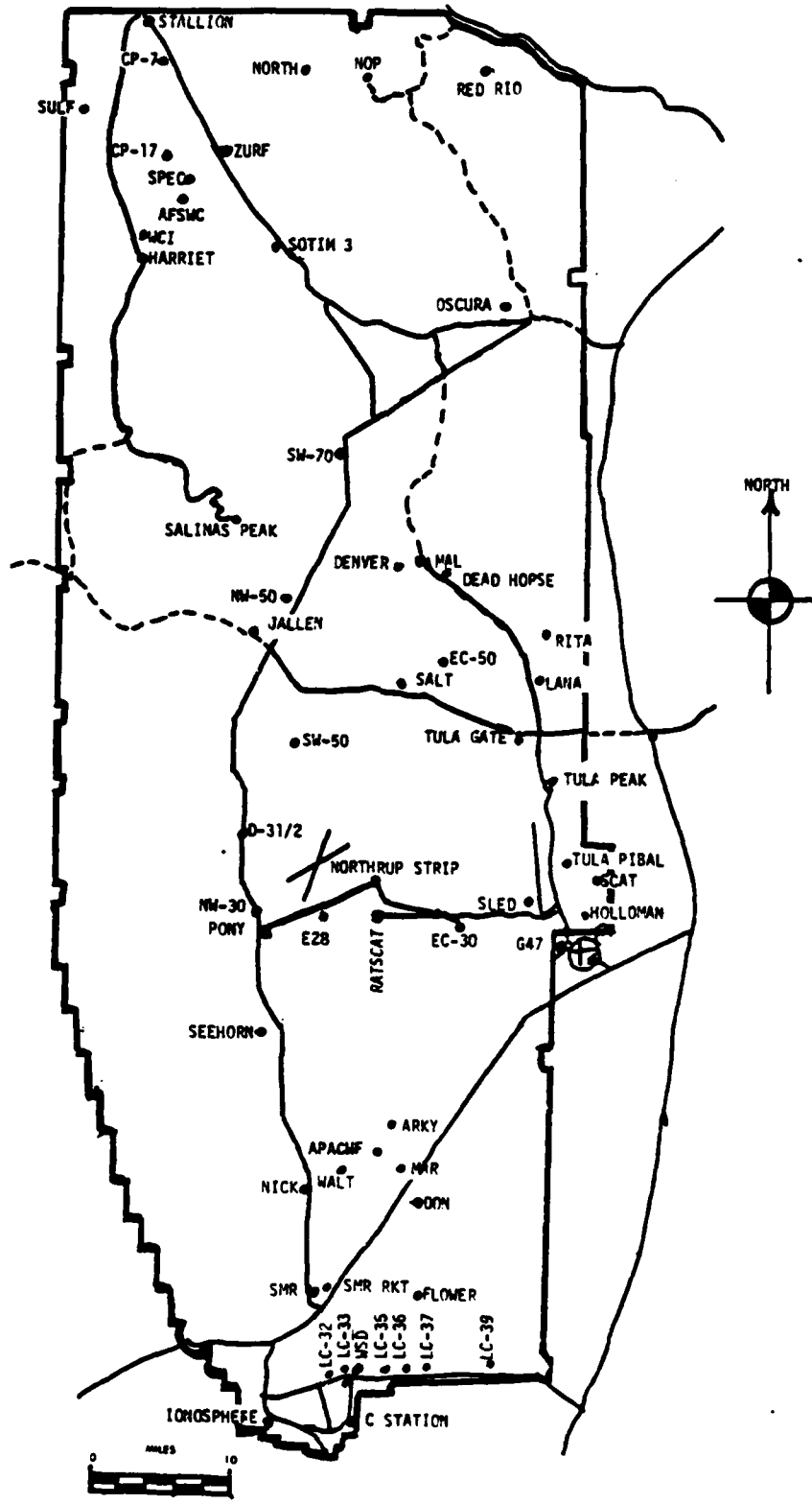
SITE AND TIME

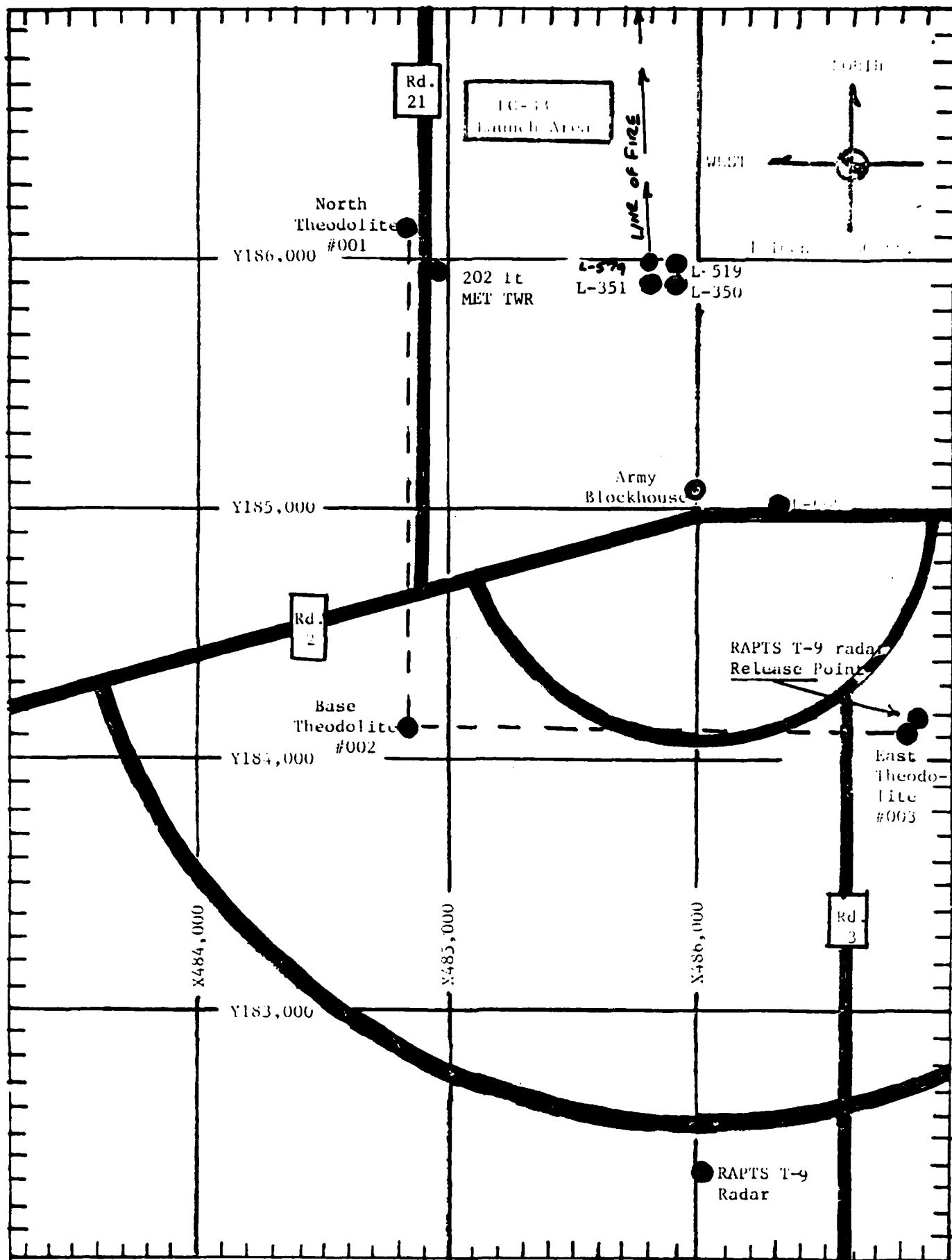
WSD	1300 MDT
SMR	1300 MDT
DON	1300 MDT
SMR	1345 MDT
WSD	1430 MDT
SMR	1430 MDT
DON	1430 MDT



H1

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1		STATION LC-33	
DATE 30	May	84	YEAR
X = 484,982.64		Y = 185,957.73 H = 3995.00	

TIME M D T	PRESSURE mb	TEMPERATURE OF OC	DEW POINT OF OC	RELATIVE HUMIDITY %	DENSITY gm/m ³	WIND		VISIBIL- ITY
						DIRECTION degs Tn	SPEED kts	
1430	882.2	31.5	12.9	32		210	06	40

OBSTRUCTIONS TO VISIBILITY	CLOUDS							RE:APKS		
	1st LAYER		2nd LAYER		3rd LAYER					
	AMT	TYPE	HGT	AMT	TYPE	HGT	AMT		TYPE	HGT
	2	CU	7,000	2	ci	25,000				CB NE TCU NW

PSYCHROMETRIC COMPUTATION

TIME: MDT	1430	
DRY BULB TEMP.	31.5	
WET BULB TEMP.	19.0	
WET BULB DEPR.	12.5	
DEW POINT	12.9	
RELATIVE HUMID.	32	

**LC-33 METEOROLOGICAL TOWER
ANEMOMETER MEASURED WIND DATA**

WSTM COORDINATES X=484,982.64 Y=185,957.73 H=3983.00(BASE)

TABLE NO. 2

DATE 30 May 1984 1430 M D T
DAY MONTH YEAR TIME

LEVEL #1 12 FT AGL			LEVEL #2 62 FT AGL		
T-TIME(SEC)	DIR(DEG)	SPEED(KTS)	T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	292	02	T-30	289	05
T-20	268	02	T-20	289	04
T-10	233	03	T-10	258	03
T- 0(1st T)	230	02	T- 0(1st T)	255	03
T+10	232	02	T+10	251	01
T+20	230	01	T+20	250	01
T+30		CALM	T+30	234	01
T+40			T+40		
T+50			T+50		
T+60			T+60		
LEVEL #3 102 FT AGL			LEVEL #4 202 FT AGL		
T-TIME(SEC)	DIR(DEG)	SPEED(KTS)	T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	262	05	T-30	264	06
T-20	240	04	T-20	275	04
T-10	260	04	T-10	253	03
T- 0(1st T)	243	04	T- 0(1st T)	227	03
T+10	224	03	T+10	233	06
T+20	221	02	T+20	236	05
T+30	216	03	T+30	234	05
T+40			T+40		
T+50			T+50		
T+60			T+60		

TABLE 3

PILOT-BALLOON MEASURED WIND DATA

DATE 30 May 1984

SITE: LC-33
 TIME: 1345 MDT
 WSTM COORDINATES:
 X= 486,037.24
 Y= 182,350.16
 H= 3,977.30

SITE: LC-33
 TIME 1415 MDT
 WSTM COORDINATES:
 X= 486,037.24
 Y= 182,350.16
 H= 3,977.30

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	210	06
150	080	03
210	134	03
270	172	04
330	176	11
390	169	14
500	177	10
650	165	08
800	166	08
950	182	11
1150	164	09
1350	132	10
1550	148	12
1750	164	10
2000	127	09

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	210	12
150	132	03
210	187	10
270	182	09
330	193	08
390	183	10
500	193	10
650	165	14
800	162	14
950	180	12
1150	182	10
1350	176	11
1550	127	10
1750	130	07
2000	155	14

Data obtained from RAPTS T-9 radar tracked pilot-balloon observations.

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 30 May 1984

SITE: LC-33

TIME: 1430 MDT

WSTM COORDINATES:

X= 486,037.24

Y= 182,350.16

H= 3,977.30

SITE:

TIME

WSTM COORDINATES:

X=

Y=

H=

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	210	06
150	168	03
210	108	10
270	167	08
330	176	09
390	169	08
500	158	07
650	174	06
800	165	07
950	140	07
1150	145	08
1350	156	10
1550	165	08
1750	119	12
2000	164	11

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		
150		
210		
270		
330		
390		
500		
650		
800		
950		
1150		
1350		
1550		
1750		
2000		

TABLE 4

AIMING AND T-TIME COMPUTER MET MESSAGE DATA

30 May 1984

WSD 1300 MDT	SMR 1300 MDT	DON 1300 MDT	SMR 1345 MDT
METCM1324064	MFTCM1325064	METCM1326063	METCM1325064
301900122884	301900122884	301900121883	301980122883
00284001 30440884	00213010 30490884	00249007 30370883	00160010 30500883
01319005 30070874	01287008 30240874	01254009 30040873	01187004 30240873
02321006 29640849	02269007 29850849	02346009 29760848	02262007 29830849
03317007 29410811	03312007 29430811	03338009 29370810	03290012 29440810
04242006 28950765	04285009 28920765	04289003 28920764	04321009 28990764
05232010 28540721	05246005 28480721	05261006 28590720	05299005 28580721
06251010 28230679	06261010 28220679	06241010 28220678	06294009 28220679
WSD 1430 MDT	SMR 1430 MDT	DON 1430 MDT	
METCM324064	METCM1325064	METCM1326063	
302050122882	302050122882	302050121881	
00267003 30530882	00178012 30780882	00231008 30550881	
01292014 30260872	01272013 30260872	01326012 30330871	
02364004 29950848	02297015 29950848	02363011 29960847	
03334008 29540810	03280010 29540810	03297007 29560809	
04273011 29040764	04355009 29050764	04271010 29090763	
05303011 28560720	05363007 28580720	05273010 28630719	
06309011 28140678	06307007 28130678	06279007 28240678	

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
1510020299
WHITE SANDS

STATION ALTITUDE 3955.0' FELT 451
13 MAY 84 1300 MDT
ASCENSION NO. 294

TABLE 5

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
84.2	3959.0	30.0	10.0	29.0
80.6	4106.0	27.1	10.7	36.0
50.0	5129.2	23.7	9.7	41.0
18.8	6197.0	20.5	8.5	46.0
78.3	7374.6	17.2	7.3	52.0
73.8	9111.4	12.0	6.1	67.0
718.2	9851.7	11.0	-2.4	39.0
700.0	10555.0	10.7	-6.1	30.0
670.6	11723.0	7.7	-13.2	21.0
651.6	12499.9	7.0	-15.0	19.0
597.0	14836.0	.7	-18.5	22.0

STATION ALTITUDE 1000.00 FEET MSL
30 MAY 84
ASCENSION NO. 299

UPPER AIR DATA
1510020299
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 6

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
2999.0	884.2	70.0	10.0	29.0	1010.7	680.1	160.0	1.0	1.000276
4000.0	883.9	29.7	10.1	29.6	1011.2	679.8	160.7	1.0	1.000277
4500.0	868.7	25.3	10.4	37.9	1006.8	675.4	175.1	2.3	1.000278
5000.0	853.8	24.1	9.8	40.4	995.1	673.5	179.0	3.6	1.000274
5500.0	839.0	22.6	9.3	42.7	983.1	671.7	180.8	5.0	1.000270
6000.0	824.5	21.1	8.7	45.1	971.1	670.0	180.9	6.2	1.000266
6500.0	810.1	19.6	8.2	47.6	959.1	668.3	174.8	6.7	1.000262
7000.0	795.8	18.1	7.6	50.3	947.1	666.5	169.2	7.2	1.000258
7500.0	781.8	16.0	7.2	53.6	935.2	664.8	159.4	6.8	1.000254
8000.0	767.9	15.2	6.9	57.8	923.1	663.2	148.5	6.5	1.000251
8500.0	754.2	13.8	6.6	61.9	911.3	661.5	138.2	6.6	1.000248
9000.0	740.8	12.3	6.2	66.1	899.6	659.8	135.5	7.6	1.000245
9500.0	727.4	11.5	5.1	52.3	887.1	658.5	133.3	8.5	1.000231
10000.0	714.3	10.9	-3.1	37.1	873.7	657.5	133.0	9.2	1.000217
10500.0	701.4	10.7	-5.8	30.7	858.9	657.1	134.2	9.6	1.000210
11000.0	688.6	9.6	-8.7	26.6	847.1	655.6	135.4	10.0	1.000204
11500.0	676.1	8.3	-11.8	22.7	835.8	654.0	141.2	10.7	1.000198
12000.0	663.8	7.5	-13.8	20.3	823.1	653.0	146.9	11.4	1.000193
12500.0	651.6	7.0	-15.0	19.0	810.4	652.4	150.0	11.9	1.000189
13000.0	639.5	5.7	-15.7	19.6	798.2	650.8	150.1	11.8	1.000187
13500.0	627.6	4.3	-16.5	20.3	787.3	649.2	150.1	11.7	1.000184
14000.0	616.0	3.0	-17.2	20.9	776.5	647.7			1.000181
14500.0	604.6	1.6	-18.0	21.6	765.8	646.1			1.000178

STATION ALTITUDE 3909.00 FEET MSL
 30 MAY 84
 ASCENSION NO. 299 1300 MDT

MANDATORY LEVELS
 1510020299
 WHITE SANDS

GEODETIC COORDINATES
 52.40043 LAT DEG
 106.37033 LONG DEG

TABLE 7

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES(TN)	SPEED KNOTS
950.0	5125.	23.7	9.7	41.		179.6	4.0
800.0	6849.	18.5	7.8	50.		171.1	7.2
750.0	8650.	13.3	6.5	63.		137.3	6.9
700.0	10544.	10.7	-6.1	30.		134.4	9.7
650.0	12552.	6.8	-15.1	19.		150.0	11.9
600.0	14686.	1.1	-19.3	22.			

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

SIGNIFICANT LEVEL DATA
1510040058
S M R

STATION ALTITUDE 2097.70 FEET *SL
10 MAY 84 1300 MDT
ASCENSION NO. 50

TABLE 8

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	
63.6 3997.3	30.0	12.0	33.0
478.2 4176.5	28.4	7.6	27.0
850.0 5120.3	23.9	6.7	33.0
762.5 8199.4	14.6	4.6	51.0
725.5 9566.9	10.6	3.9	63.0
712.0 10076.9	9.6	1.3	56.0
700.0 10541.0	9.8	-5.7	33.0
690.2 10925.5	9.6	-11.0	22.0
425.0 13603.6	4.2	-18.0	18.0

STATION ALTITUDE 5997.50 FEET MSL
 13 MAY 84
 ASCENSION NO. 53

UPPER AIR DATA
 1510060058
 5 M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
5997.3	883.6	70.0	33.0	1009.3	680.3	120.0	9.9	1.000283
4000.0	883.5	70.0	32.9	1009.3	680.3	120.0	9.9	1.000283
4500.0	868.4	26.9	29.1	1003.9	676.3	123.9	9.3	1.000267
5000.0	853.5	24.5	32.2	994.7	673.6	128.2	8.8	1.000264
5500.0	838.7	22.7	35.2	983.0	671.6	133.1	8.3	1.000261
6000.0	823.9	21.2	38.2	970.7	669.9	138.6	7.8	1.000258
6500.0	809.5	19.7	41.1	958.6	668.2	144.7	7.5	1.000255
7000.0	795.3	18.2	44.0	946.7	666.4	151.3	7.2	1.000252
7500.0	781.3	16.7	47.0	935.1	664.7	158.7	7.1	1.000249
8000.0	767.6	15.2	49.9	923.5	662.9	160.5	7.0	1.000245
8500.0	754.0	13.7	53.7	911.8	661.2	156.9	6.9	1.000242
9000.0	740.4	12.2	58.1	900.0	659.5	153.2	6.9	1.000239
9500.0	727.2	10.8	62.5	888.4	657.8	149.5	6.8	1.000236
10000.0	714.0	9.7	57.0	876.0	656.5	147.6	7.2	1.000238
10500.0	701.1	9.0	35.0	861.2	656.0	146.6	7.9	1.000212
11000.0	688.3	9.4	21.9	847.3	655.4	145.7	8.5	1.000201
11500.0	675.7	8.4	21.1	834.8	654.2			1.000197
12000.0	663.3	7.4	20.4	822.5	653.0			1.000193
12500.0	651.1	6.4	19.6	810.4	651.8			1.000190
13000.0	639.1	5.4	18.9	798.5	650.5			1.000186
13500.0	627.4	4.4	18.2	786.7	649.3			1.000183

STATION ALTITUDE 3997.30 FEET *SL
 30 MAY 84
 ASCENSION NO. 58 1300 MDT

MANDATORY LEVELS
 1510060059
 S M P
 TABLE 10

GEODETIC COORDINATES
 32.68034 LAT DEG
 106.62307 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5117.	23.9	6.7	33.		129.3	8.6
800.0	6840.	18.7	5.9	43.		149.1	7.3
750.0	8640.	13.3	4.4	55.		155.8	6.9
700.0	10531.	9.8	-5.7	33.		146.5	7.9
650.0	12534.	6.3	-15.2	20.			

STATION ALTITUDE 4003.79 FEET MSL
 30 MAY 84
 ASCENSION NO. 10

1300 MDT

STATION ALTITUDE 4003.79 FEET MSL
 30 MAY 84
 ASCENSION NO. 10

GEODETIC COORDINATES
 32.57209 LAT DEG
 106.29439 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	
982.7	4003.7	29.0	9.7	30.0
979.6	4106.0	26.4	7.4	30.0
972.3	4346.9	25.7	6.8	30.0
950.0	5091.5	23.3	6.1	33.0
704.2	8093.9	14.7	2.3	43.0
761.2	8202.9	13.1	-0.2	40.0
751.8	8547.4	15.3	-1.7	31.0
700.0	10515.8	10.3	-12.9	18.0
649.8	12534.9	6.6	-17.4	16.0
625.7	13548.3	3.7	-19.0	17.0

STATION ALTITUDE 4007.29 FEET MSL
 13 MAY 84 1300 MDT
 ASCENSION NO. 10

UPPER AIR DATA
 1510200010
 NON

GEODETIC COORDINATES
 32.57209 LAT DEG
 106.29439 LON DEG

TABLE 12

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
4033.7	882.7	29.5	30.0	1012.5	678.9	140.0	7.0	1.000276
4500.0	857.7	25.2	30.6	1008.8	674.4	153.6	7.1	1.000267
5000.0	832.7	23.6	32.6	996.8	672.5	166.2	7.6	1.000263
5500.0	837.8	22.1	34.4	984.3	670.8	176.8	8.4	1.000259
6000.0	833.1	20.7	36.0	971.8	669.2	185.3	9.5	1.000255
6500.0	808.6	19.3	37.7	959.5	667.5	187.7	8.7	1.000251
7000.0	794.4	17.8	39.4	947.4	665.8	189.5	7.4	1.000247
7500.0	780.5	16.4	41.0	935.5	664.1	184.2	5.5	1.000243
8000.0	766.7	15.0	42.7	923.8	662.5	172.0	3.6	1.000239
8500.0	753.1	13.0	32.2	908.0	662.2	157.1	3.8	1.000227
9000.0	739.6	14.2	28.0	894.7	661.1	144.6	4.2	1.000220
9500.0	726.3	12.9	24.7	882.9	659.5	142.4	5.3	1.000214
10000.0	713.2	11.6	21.4	871.2	657.9	143.3	6.8	1.000208
10500.0	700.4	10.3	18.1	859.6	656.3	142.7	8.0	1.000202
11000.0	687.3	9.4	17.5	846.8	655.2	139.8	9.0	1.000198
11500.0	675.1	8.5	17.0	834.1	654.1	137.4	9.9	1.000195
12000.0	662.7	7.6	16.5	821.6	653.1			1.000191
12500.0	650.6	6.7	16.0	809.3	652.0			1.000188
13000.0	638.6	5.3	16.5	795.4	650.3			1.000185
13500.0	626.8	3.8	17.0	787.7	648.6			1.000182

STATION ALTITUDE 4003.19 FEET MSL
 33 MAY 84
 ASCENSION NO. 10

MANDATORY LEVELS
 1510200010
 RDM

GEODETIC COORDINATES
 32.57209 LAT DEG
 106.29439 LONG DEG

TABLE 13

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5088.	23.3	6.1	33.		168.2	7.7
800.0	6809.	18.4	4.1	39.		188.8	7.8
750.0	8606.	15.1	-2.0	31.		154.1	3.8
700.0	10505.	10.3	-12.9	18.		142.6	8.1
650.0	12513.	6.6	-17.4	16.			

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

SIGNIFICANT LEVEL DATA
 1510060059
 5 4 R

STATION ALTITUDE 3947.00 FEET MSL
 20 MAY 84 1345 MDT
 ASCENSION NO. 55

TABLE 14

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
963.0	3997.3	30.0	12.4	34.0
877.7	4173.4	28.7	6.7	25.0
850.0	5100.7	23.7	6.5	33.0
764.6	8095.6	15.5	4.5	48.0
700.0	10572.1	10.2	-9.4	24.0
663.3	11995.8	7.5	-15.2	18.0
418.2	13686.7	3.0	-19.0	18.0

STATION ALTITUDE 399'. T.J. FEET *SL
30 MAY 84 1345 MDT
ASCENSION NO. 54

UPPER AIR DATA
1517000059
5 M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 15

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES JFMPTJNT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
297.3	883.0	10.0	34.0	1009.4	680.4	120.0	9.9	1.000284
400.0	852.9	10.0	33.9	1008.4	680.4	120.0	9.9	1.000294
450.0	867.8	26.9	27.8	1007.1	676.3	127.4	9.5	1.000265
500.0	853.0	24.2	32.1	994.8	673.3	135.7	9.2	1.000263
550.0	838.1	22.6	35.0	987.9	671.4	144.1	9.1	1.000261
600.0	823.4	21.2	37.5	970.1	669.9	152.4	9.3	1.000258
650.0	809.0	19.9	40.0	957.6	668.3	160.4	9.6	1.000254
700.0	794.8	18.5	42.5	945.3	666.8	165.7	9.5	1.000251
750.0	780.9	17.1	45.0	933.1	665.2	169.8	9.1	1.000248
800.0	767.2	15.8	47.5	921.2	663.6	174.1	8.7	1.000244
850.0	753.5	14.6	44.0	909.8	662.1	175.1	8.3	1.000240
900.0	740.0	13.5	39.1	896.4	660.6	175.4	7.9	1.000228
950.0	726.7	12.4	34.2	884.1	659.2	175.7	7.5	1.000220
1000.0	713.6	11.4	29.2	872.0	657.8	173.0	7.4	1.000213
1050.0	700.8	10.3	24.3	860.0	656.4	169.9	7.4	1.000206
1100.0	688.1	9.3	22.1	847.3	655.2	166.8	7.4	1.000201
1150.0	675.5	8.4	20.0	834.7	654.1	165.6	8.5	1.000197
1200.0	663.2	7.5	18.0	822.4	653.0	164.7	9.6	1.000192
1250.0	650.9	6.3	16.0	810.7	651.6			1.000189
1300.0	638.9	5.1	18.0	799.2	650.2			1.000186
1350.0	627.1	3.9	18.0	787.8	648.7			1.000183

STATION ALTITUDE 1997.30 FEET
 30 MAY 84
 ASCENSION NO. 59

1345 MDT

MANDATORY LEVELS

1°10'00.00S

S M W

TABLE 16

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES(TN)	SPEED KNOTS
950.0	5097.	23.7	6.5	33.		137.3	9.2
800.0	6920.	19.0	5.7	42.		164.4	9.7
750.0	8624.	16.3	1.9	43.		173.2	8.2
700.0	10527.	10.2	-9.4	24.		160.7	7.4
650.0	12529.	6.2	-16.3	18.			

STATION ALTITUDE 5919.00 FEET MSL
 20 MAY 84
 ASCENSION NO. 500

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

SIGNIFICANT LEVEL DATA

1510020300
 WHITE SANDS

TABLE 17

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
882.2	3989.0	30.8	7.3	23.0
874.7	4238.6	29.1	6.2	25.0
862.4	4649.6	26.6	6.1	27.0
850.0	5068.0	25.4	5.6	28.0
775.0	7695.4	17.2	4.2	42.0
700.0	10510.7	9.1	2.4	63.0
687.0	11020.7	7.7	2.4	69.0
677.1	11414.0	7.3	-8.3	32.0
669.6	11715.3	7.7	-16.5	16.0
632.7	13240.1	4.4	-18.5	17.0
614.9	14001.2	2.9	-19.0	18.0

STATION ALTITUDE 3929.0 FEET MSL
30 MAY 84
ASCENSION NO. 500

UPPER AIR DATA
1510020300
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 18

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
2999.0	682.2	30.6	7.3	23.0	1006.7	680.7	15.0	29.1	1.000266
4000.0	681.9	30.7	7.2	23.1	1006.7	680.6	15.0	29.0	1.000266
4500.0	666.9	27.1	6.1	26.3	1001.5	676.5	15.8	21.5	1.000263
5000.0	652.0	25.6	5.7	27.8	989.5	674.7	17.4	14.1	1.000259
5500.0	637.2	24.1	5.6	30.3	977.3	673.0	22.4	6.7	1.000257
6000.0	622.6	22.5	5.4	33.0	965.3	671.2	137.6	1.4	1.000254
6500.0	608.3	20.9	5.2	35.6	953.5	669.5	183.0	7.6	1.000251
7000.0	594.2	19.4	4.6	38.3	941.9	667.7	174.2	8.4	1.000248
7500.0	580.3	17.8	4.4	41.0	930.5	665.9	167.1	9.4	1.000245
8000.0	566.5	16.3	4.1	44.3	918.7	664.2	164.3	10.1	1.000242
8500.0	552.8	14.9	4.0	48.0	906.7	662.5	165.2	10.3	1.000239
9000.0	539.3	13.4	3.7	51.7	895.0	660.9	166.0	10.5	1.000236
9500.0	526.1	12.0	3.4	55.5	883.4	659.2	167.6	10.6	1.000233
10000.0	513.0	10.6	2.9	59.2	872.0	657.5	170.0	10.7	1.000230
10500.0	500.3	9.1	2.5	62.9	860.8	655.8	172.3	10.7	1.000226
11000.0	487.5	7.6	2.4	68.8	849.2	654.3	173.2	11.0	1.000224
11500.0	475.0	7.4	-10.1	77.4	836.7	653.1	172.0	11.4	1.000200
12000.0	462.6	7.1	-16.9	16.2	822.9	652.5	170.9	11.9	1.000191
12500.0	450.3	6.0	-17.5	16.5	810.9	651.2			1.000188
13000.0	438.4	4.9	-18.2	16.8	799.1	649.9			1.000185
13500.0	426.6	3.9	-18.7	17.3	787.2	648.7			1.000182
14000.0	414.9	2.9	-19.0	18.0	775.4	647.5			1.000179

STATION ALTITUDE 2929.00 FEET MSL
 30 MAY 84 1430 MDT
 ASCENSION NO. 300

MANDATORY LEVELS
 1510020300
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 19

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	PERCENT	DIRECTION DEGREES(TM)	SPEED KNOTS	
850.0	5064.	25.4	5.6	28.	17.7	13.2	
800.0	6795.	20.0	5.0	37.	177.5	8.1	
750.0	8603.	14.6	3.9	49.	165.4	10.3	
700.0	10300.	9.1	2.4	63.	172.4	10.7	
650.0	12503.	6.0	-17.5	17.			

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

SIGNIFICANT LEVEL DATA
1510060060
S Y R

TABLE 20

STATION ALTITUDE 3997.30 FLT MSL
30 MAY 84 1430 MDT
ASCENSION NO. 60

PRESSURE MILLIBARS	GLOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
787.0	3997.3	32.8	12.9	30.0
876.9	4167.5	29.3	3.9	21.0
850.0	5070.0	25.5	4.0	25.0
789.3	7182.7	18.9	2.7	34.0
700.0	10514.7	9.5	1.4	57.0
672.6	11598.5	6.6	-5.7	41.0
656.0	12272.9	6.9	-17.1	16.0

STATION ALTITUDE 3997.0 FEET MSI
30 MAY 54
ASCENSION NO. 50

UPPER AIR DATA
1510060060
C M R

GEODETIC COORDINATES
32.46034 LAT DEG
106.42307 LON DEG

TABLE 21

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
3997.3	882.0	32.0	30.0	997.8	683.6	100.0	12.0	1.000283
4000.0	881.9	32.7	29.9	998.0	683.5	100.0	12.0	1.000282
4500.0	846.9	27.3	22.5	1001.7	676.4	110.4	10.8	1.000257
5000.0	852.1	25.7	24.7	989.6	674.7	123.0	9.9	1.000255
5500.0	837.3	24.2	26.8	977.5	673.0	137.1	9.6	1.000253
6000.0	822.7	22.6	29.0	965.6	671.2	151.2	9.9	1.000250
6500.0	808.4	21.0	31.1	952.8	669.4	163.7	10.8	1.000247
7000.0	794.4	19.5	33.2	942.3	667.6	170.1	10.0	1.000243
7500.0	780.3	18.0	36.2	930.3	666.0	177.2	9.3	1.000241
8000.0	766.4	16.6	39.6	918.0	664.4	185.4	8.7	1.000238
8500.0	752.7	15.2	43.1	904.0	662.8	193.1	7.8	1.000236
9000.0	739.3	13.6	46.5	894.2	661.1	202.5	7.1	1.000233
9500.0	726.1	12.4	50.0	882.6	659.5	207.5	6.4	1.000230
10000.0	713.1	11.0	53.4	871.2	657.9	200.2	6.3	1.000227
10500.0	700.4	9.5	56.9	859.9	656.2	192.3	6.1	1.000224
11000.0	687.6	8.4	49.8	849.8	654.4	184.4	5.9	1.000215
11500.0	675.0	6.9	42.5	837.8	652.7	176.5	5.9	1.000207
12000.0	662.7	6.8	26.1	821.5	652.3			1.000196

STATION ALTITUDE 3997.71 FEET *SL
 30 MAY 84 1430 MDT
 ASCENSION NO. 60

MANDATORY LEVELS
 1510060060
 C M R

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

TABLE 22

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5066.	25.3	4.0	25.	124.8	9.8	
800.0	6797.	20.1	3.1	32.	167.6	10.4	
750.0	8606.	14.9	2.7	44.	195.0	7.6	
700.0	10504.	9.5	1.4	57.	192.1	6.1	

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

SIGNIFICANT LEVEL DATA
151020011
DOM

STATION ALTITUDE 4003.49 FEET MSL
10 MAY 84 1430 MDT
ASCENSION NO. 11

TABLE 23

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
81.0 4003.7	30.6	8.9
85.1 4335.5	27.7	4.1
850.0 5045.2	25.7	3.6
804.5 619.9	20.9	3.6
761.9 8153.1	16.5	2.2
743.7 8827.2	14.6	2.8
707.0 10224.1	11.0	-4.2
700.0 10426.8	10.9	-4.7
660.2 12049.2	7.1	-14.9
538.2 15167.5	-1.1	-22.2
		26.0
		22.0
		24.0
		32.0
		34.0
		45.0
		34.0
		33.0
		19.0
		17.0

STATION ALTITUDE 4003.49 FEET MSL
 30 MAY 64
 ASCENSION NO. 11 1430 MDT

UPPER AIR DATA

1710200011

POM

TABLE 24

GEODETIC COORDINATES
 32.57209 LAT DEG
 106.29439 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
4003.7	681.0	13.6	26.0	1005.4	680.6	130.0	8.0	1.000271
4500.0	866.2	27.9	22.3	998.6	677.2	139.8	7.4	1.000258
5000.0	851.3	25.9	23.8	988.3	674.9	148.8	7.1	1.000254
5500.0	836.6	24.3	26.3	976.2	673.1	159.4	7.0	1.000252
6000.0	822.1	22.6	26.9	964.2	671.4	170.0	7.1	1.000250
6500.0	807.9	21.3	31.4	952.4	669.7	175.3	7.4	1.000247
7000.0	793.7	19.8	33.5	940.4	668.0	161.6	7.8	1.000244
7500.0	779.8	18.4	35.4	928.4	666.4	154.2	8.7	1.000240
8000.0	766.1	16.9	37.4	916.7	664.7	153.3	9.7	1.000237
8500.0	752.5	15.5	41.6	904.7	663.1	153.6	10.0	1.000235
9000.0	739.1	14.2	43.6	892.9	661.5	154.2	10.1	1.000231
9500.0	725.8	12.9	39.7	881.3	659.9	154.1	9.5	1.000224
10000.0	712.8	11.6	35.8	869.8	658.2	153.8	8.9	1.000217
10500.0	699.9	10.9	33.0	856.4	657.3	156.1	8.6	1.000211
11000.0	687.2	9.7	28.6	844.7	655.8	159.2	8.5	1.000204
11500.0	674.7	8.5	24.2	833.2	654.3	162.7	8.7	1.000198
12000.0	662.4	7.3	19.8	821.8	652.8	166.5	9.4	1.000193
12500.0	650.1	6.1	18.7	810.1	651.6	169.7	10.1	1.000189
13000.0	638.0	5.0	18.4	798.4	650.0			1.000186
13500.0	626.2	3.8	18.1	786.9	648.6			1.000182
14000.0	614.5	2.6	17.8	775.7	647.2			1.000179
14500.0	603.1	1.5	17.4	764.5	645.8			1.000176
15000.0	591.9	.5	17.1	753.6	644.4			1.000173

STATION ALTITUDE 4003.6 FEET MSL

30 MAY 84

ASCENSION NO. 11

MANDATORY LEVELS

1510200011

NUM

GEODETIC COORDINATES

32.57209 LAT DEG

106.79439 LONG DEG

TABLE 25

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR	DEWPOINT	PERCENT		DIRECTION	SPEED
		DEGREES	CENTIGRADE			DEGREES(TM)	KNOTS
850.0	5042.	25.7	3.6	24.		149.7	7.1
800.0	6774.	20.4	3.5	33.		167.5	7.6
750.0	8585.	15.3	2.6	43.		153.7	10.0
700.0	10487.	10.9	-4.7	33.		156.0	8.6
650.0	12495.	6.1	-15.9	19.		169.8	10.1
600.0	14426.	1.1	-20.9	17.			

END

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